

## Intensional constructions

Readings: Portner, Ch. 7

### 1. Extension vs. intension

- We already know the distinction between extension and intension.
- How this distinction will be important for us now:
  - The extension of a sentence (= its truth value) only tells us whether this sentence is true or false **in a given world**. Usually, we use the extension to find out whether a sentence is true in the actual world, called  $w_0$ .
  - By contrast, the intension of a sentence tells us **for any possible world** whether the sentence is true in that world.
- Today we are going to look at natural language constructions that allow speakers to talk about other possible worlds. In the coming meetings we will model these constructions using intensions.

### 2. Extensional vs. intensional constructions

- So far (except when we talked about tense), we've been dealing with *extensional constructions*, i.e., constructions whose truth conditions depend only on the here and now at the actual world.
  - (1)
    - a. Harry is single.
    - b. Hannah is in the library.
    - c. Every car is registered.
- But there are also *intensional* constructions:
  - (2)
    - a. **Sue thinks** that Harry is single.
    - b. Every car **must be** registered.
    - c. **Possibly**, Hannah is in the library.
- (2b) is about what the law requires.
- (2a) is about what is compatible with Sue's beliefs.
- (2c) is about what is compatible with the speaker's beliefs.
- The truth of these sentences is determined by certain sets of worlds (more about this next time):
  - What the law requires  $\approx$  those worlds in which what the law requires is true.
  - What is compatible with certain beliefs  $\approx$  those worlds in which those beliefs are true.

### The substitutivity test

- To distinguish extensional from intensional constructions, replace a definite description by a name with the same extension. If the two sentences are no longer equivalent, the construction is intensional.
- (3) a. That tower is the tallest building in New York.  
b. That tower is One World Trade Center. *extensional*
- (4) a. The Empire State Building might be the tallest building in New York.  
b. The Empire State Building might be One World Trade Center. *intensional*
- (5) a. Little Emma thinks her house is the tallest building in New York.  
b. Little Emma thinks her house is One World Trade Center. *intensional*

#### In-class Exercise 1

- Come up with two more intensional constructions (different from (4)–(5)). Apply the substitutivity test to them to show they are intensional.

#### What you need to know

**Key notions:** extensional vs. intensional constructions

**Skills:**

- Apply the substitutivity test to distinguish between extensional/intensional constructions.